Advances in neuroimaging: management of partial epileptic syndromes

Siegel, Adrian M

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COMMENTARY

Adrian M. Siegel

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By the use of modern neuroimaging, surgical treatment has become a common therapeutic option in medically refractory epilepsies. Epileptologists and neurosurgeons used to treat their patients based on pneumoencephalography and angiography, which mainly showed unspecific changes. The modern imaging era started with the advent of computed tomography (CT) in the 1970s. This method allowed a noninvasive view of the brain and its pathological structures for the first time and was thus a help in planning surgical strategy. Magnetic resonance imaging (MRI), subsequently developed for clinical routine, became a tool without which modern neurosurgery is inconceivable. In their excellent review, Schäuble and Cascino present not only the technical background of current imaging techniques but also discuss indications for their use. Thus, it becomes understandable how the use of modern imaging tools such as CT, MRI, functional MRI, positron emission tomography, and single photon emission computed tomography (SPECT) has yielded better seizure outcome. The effect of modern imaging is best reflected in the treatment of patients with medically refractory epilepsy and normal MRI. These patients were usually rejected for surgical treatment; but now, by the use of modern imaging such as ictal SPECT, they may be successfully operated on [1]. Thus it is my hope that this article can help bring beneficial surgical treatment to more patients.

Reference

1. Siegel AM, Jobst BC, Thadani VM, Rhodes CH, Lewis PJ, Roberts DW, Williamson PD (2001) Medically intractable, localization-related epilepsy with normal MRI: presurgical evaluation and surgical outcome in 43 patients. Epilepsia 42:883–888

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A. M. Siegel (✉)
Department of Neurology,
University Hospital,
8091 Zürich, Switzerland
e-mail: adrian.siegel@nos.usz.ch
Tel.: +41-1-2555520
Fax: +41-1-2554141